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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/607,256      | 06/30/2000  | David M. Barth       | 042390.P7708        | 9801             |

7590

01/29/2003

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EXAMINER

CASIANO, ANGEL L

ART UNIT

PAPER NUMBER

2182

DATE MAILED: 01/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                     |  |
|------------------------------|--------------------------------------|-------------------------------------|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>09/607,256 | <b>Applicant(s)</b><br>BARTH ET AL. |  |
|                              | <b>Examiner</b><br>Angel L. Casiano  | <b>Art Unit</b><br>2182             |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 June 2000.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-42 is/are rejected.
- 7) ☒ Claim(s) 10, 11, 14, 24, 25, 28, 38, 39, and 42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>5</u> . | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 20 October 2002 was filed after the mailing date of the application on 30 June 2000. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### ***Drawings***

2. This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: (Figure 3, "315").

A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The disclosure is objected to because of the following informalities:

Page 11, line 11; delete "thought", insert "though" in its place

Page 12, line 20; delete "opponents", insert "components" in its place

Page 17, line 6; delete "that"

Page 20, line 23; delete "application", insert "applications" in its place

Page 23, line 5; insert “to” after “tend”

Appropriate correction is required.

***Claim Objections***

5. Claims 10, 11, 24, 25, 38, and 39 are objected to because of the following informalities:

Claim 10, line 4; insert “remaining” after “time”

Claim 11, line 7; insert “remaining” after “time”

Claim 24, line 5; insert “remaining” after “time”

Claim 25, line 8; insert “remaining” after “time”

Claim 38, line 4; insert “remaining” after “time”

Claim 39, line 6; insert “remaining” after “time”

6. Claims 11, 14, 25, 28, 39, and 42 are objected to because of the following informalities:

Claim 11, line 9; delete “repetetively”, insert “repetitively”

Claim 14, line 8; delete “repetetively”, insert “repetitively”

Claim 25, line 10; delete “repetetively”, insert “repetitively”

Claim 28, line 9; delete “repetetively”, insert “repetitively”

Claim 39, line 8; delete “repetetively”, insert “repetitively”

Claim 42, line 8; delete “repetetively”, insert “repetitively”

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 4-11 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements.

See MPEP § 2172.01.

Regarding claim 4, it is unclear what component in the method is claimed as “sleeping” (see line 1). It is not clear the step of sleeping for the estimated time, since the device calculates the estimated time if the device is not busy.

As for claims 5-11, these claims depend on claim 4. Therefore, they are rejected under the same basis.

A correction is therefore required.

### *Claim Rejections - 35 USC § 103*

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 4, 5, and 7-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Salgado [US 5,579,447].

Regarding claim 1, Salgado discloses a method comprising (see col. 12, lines 58-60) starting an Input/Output (I/O) request to a device (printer, in the cited prior art) (see col. 12, lines 60-65). The Salgado reference does not expressly include a scheduling driver to start the I/O request, but it does include programming that select the jobs to be performed

(see col. 13, lines 58-59; col. 14, lines 27-31). This method in the reference is capable of determining if the device is busy (see col. 10, lines 26-32) and if the device is busy (see column 1, lines 16-18), it provides an estimated processing time for the request to be completed (see Abstract; col. 2, lines 10-15).

Regarding claim 4, the method disclosed in the reference includes sleeping for the estimated processing time (see col. 11, lines 36-40). If the device is busy, the requests for service must wait (sleep) according to the estimated processing times calculated for each of them. The system disclosed in the reference provides for managing several requests for service in the same device. Therefore, the determined estimated processing time indicates sleeping time for the job request.

As for claims 5 and 7, the method in the reference discloses obtaining and providing the I/O operation results (see Figure 10, steps "174", "175", "178") after sleeping (see claim 4) for the estimated processing time. The method also determines if the I/O request has been completed (Figure 10, "178"). Although the prior art does not mention a scheduling driver, the method disclosed by the reference includes programming that select the jobs to be performed (see col. 13, lines 58-59; col. 14, lines 27-31). It is obvious that I/O devices (e.g. printer) use a driver, which is software that controls the hardware component. It is obvious that the I/O device in the reference has a driver that schedules the different jobs (requests).

As for claim 8, Salgado does not include sleeping for a timer tick interval if the I/O request has been completed. However, since Salgado discloses jobs waiting (see col. 11,

lines 35-40) to be completed. It is obvious that in order to allow the subsequent requests to start, a transition period is needed.

As for claim 9, the method that Salgado teaches includes calculating a new processing time for completing the I/O request, if the request has not been completed (see Figure 8, "172", "174", "176", "178"; col. 13, lines 23-25).

As for claims 10 and 11, the Salgado reference discloses calling the method to obtain the I/O operation results and determining if the I/O request has been completed (see Figure 8, "172", "174", "176", "178"). If the request has not being completed, the method in the reference repetitively performs the time estimation calculation until the request has been completed. However, the reference does not expressly disclose sleeping for the estimated processing time. In the prior art the job continues and the estimated processing time is updated (col. 10, lines 49-51).

As for claim 12, if the device is busy, the reference estimates an amount of time left and provides the amount of time left (see col. 11, lines 36-40).

As for claims 13 and 14, the method in the cited reference sleeps for the estimated amount of time left and then starts the I/O request. However, the reference does not teach repetitively performing the operation of calling and determining if the device is busy. However, if the device was performing a previous job, it does not become available (see Figure 8) until the previous job is done. Therefore, the queued jobs do not need to repeatedly perform the operations, since each of them (col. 11, lines 36-40) has an estimated time for service. The amount of time that a request needs in order to be completed is disclosed in the reference as being continuously updated. It is obvious that

this estimated time left to complete a previous job is indicative of the amount of time left to service a subsequent request.

Regarding claims 15-28, these constitute the instructions to the method of claims 1-14.

Therefore, these claims are rejected under the same rationale.

Regarding claims 29-42, the Salgado reference teaches an apparatus comprising a processor and a memory. The apparatus in these claims is directed to the method of claims 1-14. Therefore, these claims are rejected under the same rationale.

11. Claims 2-3, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art, Salgado [US 5,579,447] in view of Lenny [US 6,467,054]

Regarding claim 2, Salgado does not mention determining whether a locked flag is set (device busy) or not (device not busy). Nonetheless, Lenny teaches a method that includes (Fig. 9, "158"; col. 2, lines 60-61) setting a flag to indicate that a device is busy. It is obvious that if the flag is not set in the Lenny reference, the device is not busy. It would have been obvious to modify the Salgado reference by including a flag, since it is widely used as an indicator in methods and processes.

As for claim 3, Salgado does not disclose a method that includes setting a locked flag if the device is not busy. However, Lenny teaches a method that includes (Fig. 9, "158"; col. 2, lines 60-61) setting a flag to indicate that a device is busy. It is obvious, to someone of ordinary skill in the art, since a flag is an indicator, it can be set to identify the device as being available (not busy).

Regarding claim 6, Salgado does not include in its disclosure the step of clearing a locked flag if the I/O request has been completed. Nonetheless, Lenny teaches a method that



includes (Fig. 9, "158"; col. 2, lines 60-61) setting a flag to indicate that a device is busy.

It is obvious that a flag is a variable, which that can take one of two values, that is used to indicate one of two outcomes or is used to control which of two things is to be done.

Therefore, although Lenny does not use a locked flag to indicate completion of an I/O request, it is obvious to one of ordinary skilled in the art, that the Salgado reference (Figure 10) would have been modified to include a flag (indicator) showing that the request was completed.

### *Conclusion*

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angel L. Casiano whose telephone number is 703-305-8301. The examiner can normally be reached on 830-500pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 703-308-3301. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7239 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

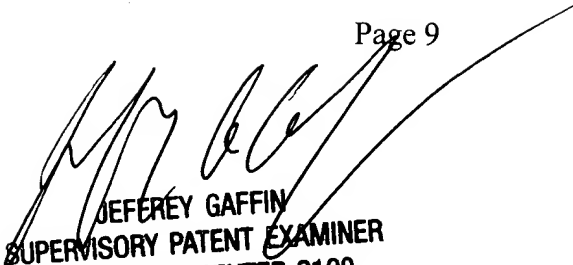
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January 21, 2003

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